

*Amendments*

*In the Claims*

Please add the following new claims:

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32. A cable modem, comprising:  
a down-converter, including:  
a switch,  
a storage device coupled to said switch, and  
a control signal generator coupled to said switch.
33. The cable modem of claim 32, further comprising:  
an up-converter, including:  
an acceptance module, and  
a harmonic generation and extraction module (HGEM) coupled to said acceptance module.
34. The cable modem of claim 33, wherein said up-converter further comprises:  
a transmission module coupled to said HGEM.
35. The cable modem of claim 33, wherein said HGEM comprises:  
a second switch, including:  
a first port that receives a bias signal;  
a second port that receives a control signal; and  
a third port.
36. The cable modem of claim 35, wherein said HGEM further comprises:  
a filter, coupled to said second switch.

37. The cable modem of claim 36, wherein said filter is coupled to said first port of said second switch.
38. The cable modem of claim 35, wherein a harmonically rich signal is output from a port coupled to said first port of said switch.
39. The cable modem of claim 35, wherein said third port is coupled to one of a reference and an information signal..
40. The cable modem of claim 35, wherein said bias signal is a function of an information signal.
41. The cable modem of claim 35, wherein said control signal is a function of an information signal.
42. The cable modem of claim 35, wherein at least one of said control signal and said bias signal is a function of at least one information signal.
43. The cable modem of claim 32, wherein said switch comprises:  
a first port;  
a second port; and  
a third port.
44. The cable modem of claim 43, wherein said first port receives an input signal, said second port receives a control signal generated by said control signal generator, and said third port is coupled to said storage device.
45. The cable modem of claim 43, wherein said first port is coupled to said storage device, said second port receives a control signal generated by said control signal generator, and said third port is coupled to a reference.

46. A system, comprising:  
a computer; and  
a cable modem, coupled to said computer, comprising:  
a down-converter, including:  
a switch,  
a storage device coupled to said switch, and  
a control signal generator coupled to said switch.
47. The system of claim 46, wherein said switch comprises:  
a first port;  
a second port; and  
a third port.
48. The system of claim 47, wherein said first port receives an input signal, said second port receives a control signal generated by said control signal generator, and said third port is coupled to said storage device.
49. The system of claim 47, wherein said first port is coupled to said storage device, said second port receives a control signal generated by said control signal generator, and said third port is coupled to a reference.
50. The system of claim 46, wherein said cable modem further comprises:  
an up-converter, including:  
an acceptance module, and  
a harmonic generation and extraction module (HGEM) coupled to said acceptance module.
51. The cable modem of claim 50, wherein said HGEM comprises:  
a second switch, including:  
a first port that receives a bias signal;

a second port that receives a control signal; and  
a third port.

52. The cable modem of claim 51, wherein said HGEM further comprises:  
a filter, coupled to said second switch.

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*cont* 53. The cable modem of claim 51, wherein said bias signal is a function of an  
information signal.

54. The cable modem of claim 51, wherein said control signal is a function of an  
information signal.

55. The cable modem of claim 51, wherein at least one of said control signal and said  
bias signal is a function of at least one information signal. --
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